

PN & HY-SERIES

Scotch-Yoke Valve Actuators



COMPANY



For over 30 years Paladon Systems has been supplying valve actuators and control systems on a global basis.



Since its inception in 1981, Paladon Systems has continuously developed its design, engineering, organisational, quality and management capabilities. Today Paladon Systems designs and manufactures many valve automation technologies that lead the industry in terms of cost efficiency, operational performance and environmental responsibility.



Paladon Systems' vast experience with supporting the Oil, Gas and Power industries with valve automation solutions for the most critical applications in extreme operating environments has resulted in product designs that offer unsurpassed quality and reliability across all industries and applications.

Holding ISO 9001 certification for over 20 years, today Paladon Systems hold accreditation and approvals from almost all major institutes, engineering companies and end users.

Headquartered in England, Paladon Systems has offices and facilities in Scotland, Italy, Malaysia, the Russian Federation and the United States. With a comprehensive suite of valve automation solutions backed by a dedicated team of field service engineers, Paladon Systems is **Total Valve Control**.



INTRODUCTION

PN and HY-Series pneumatic and hydraulic scotch-yoke valve actuators have been designed specifically to guarantee long cycle life in the most demanding applications and environmental conditions. A fabricated steel frame, coupled with an all-steel construction, results in lighter and more corrosion resistant scotch-yoke valve actuators than traditional designs employing castings.

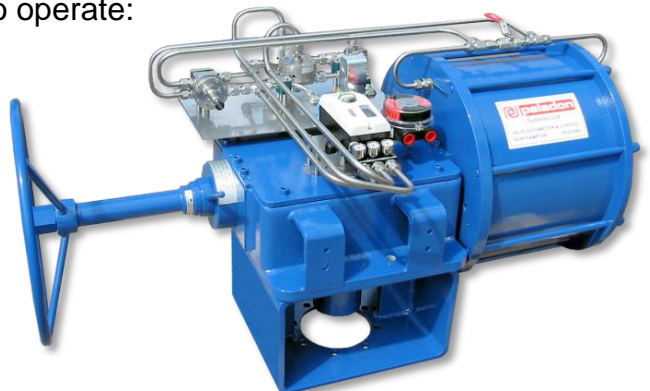
A light design, superior corrosion resistance and an Ingress Protection rating of IP66 as standard make PN & HY-Series scotch-yoke valve actuators an ideal choice for offshore applications, or any other in which weight and corrosion resistance are critical design considerations.



APPLICATIONS

PN & HY-Series valve actuators are designed to operate:

- Ball valves
- Butterfly valves
- Plug valves
- Any quarter-turn mechanism



KEY FEATURES

- Third party approved for use in SIL3 certified systems
- Electroless nickel plated cylinder as standard with hard chromium plating, Xylan® or Electro-film available
- Springs contained within a fully welded canister (which is post weld heat treated) to guarantee simple and safe removal
- Springs are scragged (set removal) in order to warrant optimum and stable output torque characteristics
- Easy and economical maintenance due to simplified design, no special tools required
- Compliant to PED 97/23/EC
- Modular construction means greater flexibility when selecting cylinder/spring combinations, and reduces production downtime during field servicing
- Various scotch-yoke configurations (symmetrical, demi-canted and canted) allow for optimum and cost effective valve actuator sizing
- Suitable for high frequency and high speed operation
- Guide bar frame design used to eliminate side forces and low friction seals ensure high efficiency, even at low supply pressure



PERFORMANCE DATA

■ Supply Pressures

- ▶ PN-Series 2.7 to 12 Barg (40 to 175 psig)
- ▶ HY-Series 13 to 250 Barg (90 to 3,625 psig)

■ Torque Output Range

- ▶ PN & HY-Series Up to 680,000 Nm (6,018,000 lb in)

■ Ambient Operating Temperatures

- ▶ Ultra-low -65 to +80°C (-85 to +176°F) (HY-Series only)
- ▶ Low -45 to +60°C (-49 to +140°F)
- ▶ Standard -20 to +80°C (-4 to 176°F)
- ▶ High -20 to +140°C (-4 to +284°F)

■ Torque Output Characteristics

PN & HY-Series valve actuators can be supplied with either symmetrical, canted or demi-canted yokes to optimize actuator sizing.



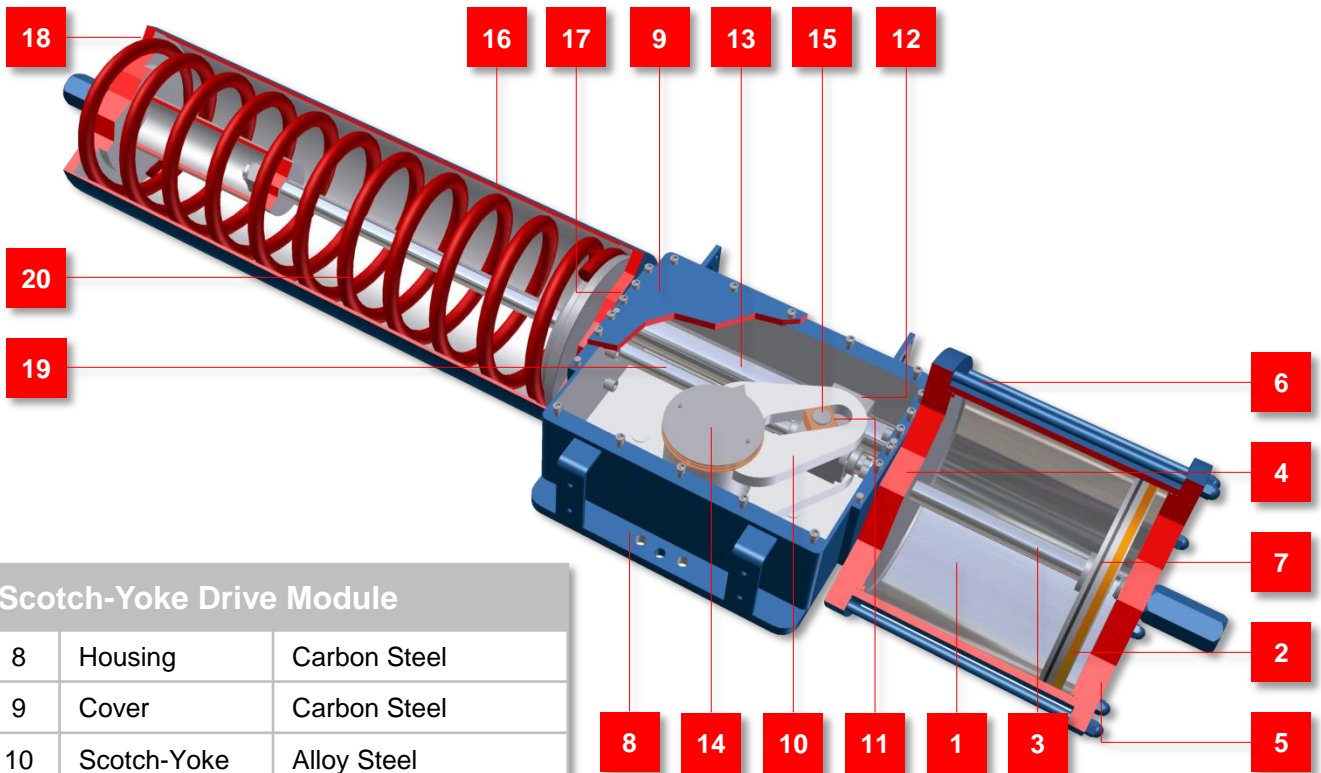
MATERIALS OF CONSTRUCTION

Spring Module

16	Spring Liner	Carbon Steel
17	Spring Head Flange	Carbon Steel
18	Spring End Flange	Carbon Steel
19	Push Bar	Alloy Steel (ENP Coated)
20	Spring	Spring Steel

Pneumatic/Hydraulic Power Module

1	Cylinder Liner	Carbon Steel (ENP coated)
2	Piston	Carbon Steel
3	Piston Rod	Alloy Steel (Chromium plated)
4	Rod Head Flange	Carbon Steel
5	Blank Head Flange	Carbon Steel
6	Tie Rod	Carbon Steel
7	O-Rings	NBR



Scotch-Yoke Drive Module

8	Housing	Carbon Steel
9	Cover	Carbon Steel
10	Scotch-Yoke	Alloy Steel
11	Sliding Block	Bronze
12	Guide Block	Carbon Steel
13	Guide Bar	Alloy Steel (Chromium Plated)
14	Position Indicator	Carbon Steel
15	Roller Pin	Alloy Steel

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